REMARKS

Claims 1-16 and 24-46 are pending for the purposes of the current Office Action. Claims 2, 8, 11, 17-34 and 41-46 are cancelled, leaving claims 1, 3-7, 9-10, 12-16, and 35-40 as pending.

Various of the claims are rejected over a combination of prior art, including McSparran et al., U.S. Patent No. 4,658,334 and Pressler et al., U.S. Patent No. 5,550,713. Such rejections are under §102 and, alternatively, under §103.

As discussed with Examiner Martin during the Interview, the claims have been amended to recite an additional ground layer in the circuit board that is substantially metalized. Specifically, independent claims 1 and 35 have been amended to recite that the circuit board includes a fourth conductive layer separated from the third signal distribution layer, which defines a fourth ground plane layer. The fourth ground plane layer is also recited as being substantially metalized. Such limitations are clearly not shown or taught in the cited prior art.

The present invention is directed to a power amplifier assembly that amplifies signals at very high frequencies. Such components can interfere with each other and are quite susceptible to RF interference and noise. To that end, it is desirable to properly isolate various of the components and to reduce the number of discretely wired components, as well as to properly ground sections of the circuit board with respect to the chassis to provide proper isolation. The isolation in the invention is provided by a combination of a power amplifier having a circuit board with multiple conductive layers to provide proper signal distribution and grounding, and also a

chassis body and a lid structure with a plurality of walls to provide the desired grounding. The presence of the ground planes throughout the circuit board, and particularly the substantially metalized ground plane, in combination with the chassis lid walls, provide the desired sheathing of the components that reduces the ability of incompatible signals to corrupt each other. The substantially metalized fourth ground plane layer provides the desired grounding and isolation within the chassis to thereby reduce RF interference between the subcircuits and components. Furthermore, the fourth ground plane layer provides isolation of the third signal distribution layer, with respect to the chassis, as illustrated in Figures 4A and 4B. The fourth ground plane layer also provides for proper and better distribution of the ground, such as through the plated areas 30 and edge plated areas 92, as illustrated in Figures 4A and 4B.

The currently cited art, and particularly the McSparran et al. patent, does not show such features as cited in the pending claims. The McSparran et al. reference is relied upon to teach a multi-layered circuit board. However, that multi-layered circuit board teaches a single ground plane layer, sandwiched on either side by multiple signal layers, with dielectric therebetween. There is no teaching or suggestion in McSparran et al. with respect to a fourth ground plane layer that is substantially metalized and positioned below the third signal distribution layer to provide additional grounding and, therefore, superior isolation, to the RF amplifier. Therefore, the McSparran et al. reference does not anticipate or render obvious the invention as claimed.

In fact, the McSparran et al. reference discloses multiple signal layers 111, 112 and 114 that are all positioned on one or the other side of a single ground

plane. That is, ground plane 110 must service and provide the ground for the components, and each of the signal conductor layers 111-114. Such a design clearly does not provide the benefits or isolation of the present invention that may utilize a high powered gain subcircuit, in combination with a power supply subcircuit on the same circuit board. Despite four individual signal layers within the McSparran et al. design, the construction teaches the use of a single ground plane positioned in the middle of the multiple stacked conductive signal layers. Therefore, the McSparran et al. reference does not teach the unique benefits provided by the present invention utilizing a substantially metalized fourth ground plane layer for providing enhanced isolation and distribution of the ground signal throughout the circuit board.

The other reference cited in the case, Pressler et al., also does not provide any teaching regarding the unique combination recited in the claims such that, when combined with McSparran et al. it would anticipate the pending claims or render those claims obvious.

Accordingly, pending claims 1, 3-7, 9-10, 12-16 and 35-40 are all allowable over the cited art. Each of the dependent claims recites a unique combination of elements that is not taught or rendered obvious by the cited art. As such, the Applicant submits that those claims are in an allowable form.

CONCLUSION

Applicant knows of no fee due with this submission. However, if any fees or credits are deemed necessary herein, Applicant hereby authorizes them to be charged to Deposit Account 23-3000.

If any issues remain in the case, which may be handled in an expedited fashion, such as through a telephone interview, the Examiner is certainly encouraged to contact the undersigned.

Respectfully submitted,

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